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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/036,644	12/30/2001	David Michael	C01-023	5805
23459	7590	12/01/2004	EXAMINER	
ARTHUR J. O'DEA LEGAL DEPARTMENT COGNEX CORPORATION ONE VISION DRIVE NATICK, MA 01760-2077			KASSA, YOSEF	
			ART UNIT	PAPER NUMBER
			2625	
DATE MAILED: 12/01/2004				

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/036,644	Applicant(s) MICHAEL, DAVID	
	Examiner YOSEF KASSA	Art Unit 2625	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
 - If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
 - If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
 - Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 30 December 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-11 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,5-8 and 11 is/are rejected.
- 7) ☒ Claim(s) 2-4,9 and 10 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 22 March 2002 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|-------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date. _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Drawings Objection

1. New corrected drawings in compliance with 37 CFR 1.121(d) are required in this application because Examiner can not able to read some of the block description of Figs. 1-7, see Fig. 2A, for example. Applicant is advised to employ the services of a competent patent draftsman outside the Office, as the U.S. Patent and Trademark Office no longer prepares new drawings. The corrected drawings are required in reply to the Office action to avoid abandonment of the application. The requirement for corrected drawings will not be held in abeyance.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1-11 are rejected under 35 U.S.C. 112, second paragraph. That is, claim 1 recites the limitation "the phase" in line 8. There is insufficient antecedent basis for this limitation in the claim.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

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(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Messing et al (U.S. Patent 6,466,618), and in view of Honey et al (U.S. Patent 5,917,553).

With regard to claim 1, Messing discloses providing a high-res color model of an object (see col. 7, lines 39-41, which read on re-sampling high resolution image);

acquiring a color image of an object with the color image sensor (see col. 6, lines 8-11, which reads on extracting color images);

finding an alignment location of the high-res color model in the color image so as to provide a single low-resolution (see col. 8, lines 46-55);

using the phase of the single low-res location (see col. 8, lines 38-42), and using the sensor geometry (see col. 6, lines 20-30),

so as to provide a true-phase high-res color model having correct phase, and

finding a high-res location of the true-phase high-res color model in the acquired color image (see col. 8, lines 56-65).

Messing does not explicitly call for an image sensor that is sensitive to N bands of electromagnetic energy. However, at the same field of endeavor, Honey discloses this feature (see col. 11, lines 31-35). At the time of the invention was made, it would have been obvious to a person an ordinary skill in the art to incorporate the teaching of Honey high-resolution sensor into Messing system. The motivation doing so is provide an image enhancement process using high-resolution image sensor.

With regard to claim 5, Messing discloses wherein the sensor geometry is based on the Bayer pattern (see col. 6, lines 17-25).

With regard to claim 6, Messing discloses wherein providing a high-res color model of an object includes creating a high-res synthetic model of the object (see col. 5, lines 55-63).

With regard to claim 7, Messing is silent about discloses acquiring a high-res image of the object using a high-res camera. However, at the same field of endeavor, Honey discloses this feature (see col. 11, lines 24-28). At the time of the invention was made, it would have been obvious to a person an ordinary skill in the art to incorporate the teaching of Honey high-resolution sensor into Messing system. The motivation doing so is provide an image enhancement process using high-resolution image sensor.

With regard to claim 8, Messing discloses wherein providing a high-res color model of an object acquiring a low-res image at each phase inherent in the sensor geometry (see col. 6, lines 25-30).

With regard to claim 11, Messing discloses synthesizing, i.e., alignment, a synthetic model (see col. 8, lines 50-60).

Allowable Subject Matter

4. Claims 2-4, 9 and 10 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Other Prior Art Cited

4. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

US Patent No. (6,678,000) to Vlahos et al disclose high-resolution still image capture apparatus...

US Patent No. (6,292,218) to Parulski et al disclose electronic camera for initiating capture of still image...

US Patent No. (6,330,029) to Hamilton et al discloses particular pattern of pixels for a color filter...

US Patent No. (6,567,119) to Parulski et al disclose digital imaging system and file format...

US Patent No. (6,343,146) to Tsuruoka et al disclose image signal processor apparatus for restoring color signals...

Conclusion

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to YOSEF KASSA whose telephone number is (703) 306-5918. The examiner can normally be reached on Monday-Thursday from 8:00 AM to 6:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, BHAVESH MEHTA can be reached on (703) 308-5246. The fax phone

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numbers for the organization where this application or proceeding is assigned is (703) 872-9306 for regular communication and (703) 872-9306 for after Final communications.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only.

For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

PATENT EXAMINER

Yosef Kassa



11/02/04.